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EXAMINER	
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/858,235	SINCLAIR, ANDREW	
	Examiner	Art Unit	
	Thomas H. Stevens	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-51 were examined.

Section I: Non-Final Rejection

Claim Interpretation

2. Office personnel are to give claims their **"broadest reasonable interpretation"** In light of the supporting disclosure. *In re Morris,* 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551(CCPA 1969). See "also *In* re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322(Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow") .... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed .... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process. The Office interprets the Roberts reference as blanketing the claim's incremental time periods by its teaching of equipment scheduling the virtual industrial plant (Roberts: pg. 324, left column, 2"d paragraph, lines 6-8) as well as its time estimating tool (Roberts: pg. 324, right column, 5t" paragraph, lines 13-15). These features are equivalent since the goal is to simulate an efficient industrial plant.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> **Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.**

3. Claims 1-51 are rejected under 35 U.S.C. 101 because the language denotes a listing of functional events of which no intended use is specified. The claims list computer processing a series of integral steps of the industrial process with no definitive credible result; the mere mention of an output is not credible. Further, specificity is required to demonstrate a practical application.

Furthermore, usefulness is another issue since the claims fail to answer the question of what the invention would be used for. Broad statements such as, "Industrial Process" do not assist in determining how the invention is utilized in the real world.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> **A person shall be entitled to a patent unless –**
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-49 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Roberts et al., "Object Oriented Simulation Tools Necessary For a Flexible Batch (title) Process Management Architecture" (hereafter Roberts).

Claim 1. A method of simulating an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) comprising the steps of: storing model

data (pg. 328, left column, bullet number 5 "plant data base") indicative of a plurality of processes involving a number of items of equipment to be used in an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) to be simulated; initiating a first simulated batch (title) for simulated processing; generating scheduling (pg. 324, left column, lines 10-12; item 3) data (pg. 328, left column, bullet number 5 "plant data base") for scheduling (pg. 324, left column, lines 10-12; item 3) the initiation of simulated batches (title) after the initiation of said first simulated batch (title) by, when simulated processing of a latest initiated batch (title) is initiated; identifying items of equipment liable to be involved in simulated processing of a next batch (title) to be initiated after said latest initiated batch (title); utilizing said stored model data (pg. 328, left column, bullet number 5 "plant data base") to determine for each item of said identified items of equipment a minimum possible simulated processing time (pg. 324, right column, forth full paragraph to page 326, first paragraph, if change over time is being reduced the minimum processing time must be calculated. This also includes the simulated process time on page 324, 4th full paragraph) required for simulated processing of said latest initiated batch (title); determining for said identified items of equipment which are currently in use for processing batches (title) currently being processed, the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of previously simulated in processing batches (title) using said items of equipment; and generating scheduling (pg. 324, left column, lines 10-12; item 3)data (pg. 328, left column, bullet number 5 "plant data base") for the next batch (title) to be initiated after the latest initiated batch (title) to cause the time (pg. 324,

right column, 4th paragraph to page 326, first paragraph) between the initiation of said latest initiated batch (title) and said next batch (title) within said simulation to be equal to the greater of the maximum of said minimum possible simulated processing times (pg. 324, right column, forth full paragraph to page 326, first paragraph, if change over time is being reduced the minimum processing time must be calculated. This also includes the simulated process time on page 324, 4th full paragraph) for said items of equipment involved in simulated processing of said next batch (title) and said greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use for said identified items of equipment currently in use; and generating output data (pg. 328, left column, bullet number 5 "plant data base") indicative of a simulation of an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) utilizing said stored model data (pg. 328, left column, bullet number 5 "plant data base") and said generated scheduling (pg. 324, left column, lines 10-12; item 3)data (pg. 328, left column, bullet number 5 "plant data base").

Claim 2. A method in accordance with claim 1, wherein said determination of the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of an item of equipment utilized in processing comprises the steps of: storing in association with each item of equipment to be simulated data (pg. 328, left column, bullet number 5 "plant data base") indicative of the time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of said item of equipment for a batch (title) previously processed by said item of equipment; and determining as the greatest

time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of said stored time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use.

Claim 3. A method in accordance with claim 1, wherein said determining of the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of an item of equipment further comprises for each of the said items of equipment the steps of: determining whether an item of equipment is in use; and if an item of equipment is in use determining the total time (pg. 324, right column, 4th paragraph to page 326, first paragraph) the item of equipment has been in use for a current batch (title); and if an item of equipment is no longer in use storing said total time (pg. 324, right column, 4th paragraph to page 326, first paragraph) in use as said time (pg. 324, right column, 4th paragraph to page 326, first paragraph) in use for said equipment.

Claim 4. A method in accordance with claim 3, wherein each of said items of equipment (abstract: line 1 "industries") is associated with a number of processes wherein said determination of whether an item of equipment is in use comprises determining whether any of said processes associated with said item of equipment is currently being simulated (abstract: 2nd paragraph, line 4 "batch sequencing simulation").

Claim 5. A method in accordance with claim 1, wherein utilizing said stored model data

(pg. 328, left column, bullet number 5 "plant data base") to determine a minimum possible simulated processing time (pg. 324, right column, forth full paragraph to page 326, first paragraph, if change over time is being reduced the minimum processing time must be calculated. This also includes the simulated process time on page 324, 4th full paragraph) for each of said identified items of equipment comprises storing, for each batch (title) to be initiated, data (pg. 328, left column, bullet number 5 "plant data base") indicative of the greatest of said minimum possible processing times ; and wherein said generating scheduling (pg. 324, left column, lines 10-12; item 3)data (pg. 328, left column, bullet number 5 "plant data base") for the next batch (title) to be initiated after the latest initiated batch (title) comprises utilizing said data (pg. 328, left column, bullet number 5 "plant data base") indicative of the greatest of said minimum possible processing times to generate said scheduling (pg. 324, left column, lines 10-12; item 3)data (pg. 328, left column, bullet number 5 "plant data base").

Claim 6. A method in accordance with claim 1, wherein said utilizing said stored model data (pg. 328, left column, bullet number 5 "plant data base") to determine a minimum possible simulated processing time (pg. 324, right column, forth full paragraph to page 326, first paragraph, if change over time is being reduced the minimum processing time must be calculated. This also includes the simulated process time on page 324, 4th full paragraph) for each of said identified items of equipment comprises: associating, with a batch (title) to be initiated data (pg. 328, left column, bullet number 5 "plant data base") to be indicative of the items of equipment to be utilized in simulated processing

of said batch (title); and determining said minimum simulated possible processing time (pg. 324, right column, 4th paragraph to page 326, first paragraph) for each item of equipment associated with said batch (title) to be initiated.

Claim 7. A method in accordance with claim 6, wherein each of the said items of equipment is associated with a number of processes, each of said processes having associated therewith a completion condition for that process, and one or more of said processes being associated with data (pg. 328, left column, bullet number 5 "plant data base") identifying one or more completion conditions including one or more lapses of one or more specified time (pg. 324, right column, 4th paragraph to page 326, first paragraph) periods in the simulation of a process, wherein said utilizing said stored model data (pg. 328, left column, bullet number 5 "plant data base") to determine a minimum possible simulated processing time (pg. 324, right column, forth full paragraph to page 326, first paragraph, if change over time is being reduced the minimum processing time must be calculated. This also includes the simulated process time on page 324, 4th full paragraph) for each of said identified items of equipment comprises determining a sum of said one or more specified time (pg. 324, right column, 4th paragraph to page 326, first paragraph) periods included in the one or more completion conditions associated with said one or more processes.

Claim 8. A method in accordance with claim 7, wherein said storing model data (pg. 328, left column, bullet number 5 "plant data base") further comprises associating with

at least some of said plurality of processes involving said items of equipment, rate data (pg. 328, left column, bullet number 5 "plant data base") identifying the respective associated process as utilizing a utility at a rate; and wherein said generating output data (pg. 328, left column, bullet number 5 "plant data base") comprises for each step in a simulation the steps of: determining whether any process of said plurality of processes to be simulated is associated with rate data (pg. 328, left column, bullet number 5 "plant data base"); determining the minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size required to complete any of the processes currently being simulated; and selecting as a time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size for generating output data (pg. 328, left column, bullet number 5 "plant data base") a default time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size, if at least one process associated with rate data (pg. 328, left column, bullet number 5 "plant data base") is to be simulated and said default time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size is smaller than said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size, and selecting as said time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size if no process to be simulated is associated with rate data (pg. 328, left column, bullet number 5 "plant data base") or said default time (pg. 324, right column, 4th paragraph to page 326, first

paragraph) increment step size is greater than said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size.

Claim 9. A method of simulating an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) comprising the steps of: storing model data (pg. 328, left column, bullet number 5 "plant data base") indicative of a plurality of processes involving a number of items of equipment to be used in an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) to be simulated; determining a time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment to be used with said model data (pg. 328, left column, bullet number 5 "plant data base"); and generating output data (pg. 328, left column, bullet number 5 "plant data base") indicative of a step within a simulation of an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) utilizing said stored model data (pg. 328, left column, bullet number 5 "plant data base") and said determined step size, wherein storing model data (pg. 328, left column, bullet number 5 "plant data base") further comprises of storing rate data (pg. 328, left column, bullet number 5 "plant data base") in relation to at least some of said processes, and wherein said determining a time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size comprises, for each step in a simulation, the steps of: determining whether any process of said plurality of processes to be simulated is associated with rate data (pg. 328, left column, bullet number 5 "plant data base"); determining the minimum time (pg. 324, right column, 4th paragraph to page 326, first

paragraph) increment required to complete any of the processes currently being simulated; and selecting, as a step size for generating output data (pg. 328, left column, bullet number 5 "plant data base") a default step size, if at least one process associated with rate data (pg. 328, left column, bullet number 5 "plant data base") is to be simulated and said default step size is smaller than said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment, and selecting as said step size said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment if no process to be simulated is associated with rate data (pg. 328, left column, bullet number 5 "plant data base") or said default step size is greater than said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment.

Claim 10. A method in accordance with claim 8, wherein said storing model data (pg. 328, left column, bullet number 5 "plant data base") further comprises associating utility type data (pg. 328, left column, bullet number 5 "plant data base") with said at least some of said plurality of processes, and wherein said generating of output data (pg. 328, left column, bullet number 5 "plant data base") comprises generating, for steps in a simulation, output data (pg. 328, left column, bullet number 5 "plant data base") associated with items of utility type data (pg. 328, left column, bullet number 5 "plant data base") utilizing rate data (pg. 328, left column, bullet number 5 "plant data base") associated with a process being simulated and said determined step size.

Claim 11. A method in accordance with claim 10, wherein said generating output data

(pg. 328, left column, bullet number 5 "plant data base") comprises determining, for steps in a simulation, output data (pg. 328, left column, bullet number 5 "plant data base") representative of an instantaneous demand for a utility corresponding to an item of utility type data (pg. 328, left column, bullet number 5 "plant data base") utilizing determined sums of rate data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type data (pg. 328, left column, bullet number 5 "plant data base") for processes being simulated.

Claim 12. A method in accordance with claim 10, wherein said generating output data (pg. 328, left column, bullet number 5 "plant data base") for steps within a simulation comprises: storing in association with items of utility data (pg. 328, left column, bullet number 5 "plant data base"), quantity data (pg. 328, left column, bullet number 5 "plant data base") indicative of a current quantity of a utility within a simulation wherein said quantity data (pg. 328, left column, bullet number 5 "plant data base") is determined utilizing rate data (pg. 328, left column, bullet number 5 "plant data base") associated with processes being simulated and said determined step size.

Claim 13. A method in accordance with claim 12, wherein said quantity data (pg. 328, left column, bullet number 5 "plant data base") for a step in a simulation is determined by incrementing or decrementing quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with utility type data (pg. 328, left column, bullet number 5 "plant data base") for the previous step in a simulation by the product of said

determined step size and the sum of rate data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility data (pg. 328, left column, bullet number 5 "plant data base") and processes being simulated.

Claim 14. A method in accordance with claim 13, wherein said storing model data (pg. 328, left column, bullet number 5 "plant data base") further comprises storing in association with said items of utility type data (pg. 328, left column, bullet number 5 "plant data base"), minimum quantity data (pg. 328, left column, bullet number 5 "plant data base") and generation rate data (pg. 328, left column, bullet number 5 "plant data base"), wherein said quantity data (pg. 328, left column, bullet number 5 "plant data base") for a step in a simulation is determined by incrementing or decrementing quantity data (pg. 328, left column, bullet number 5 "plant data base") for the previous step in a simulation by the product of said generation rate data (pg. 328, left column, bullet number 5 "plant data base") and said determined step size if said quantity data (pg. 328, left column, bullet number 5 "plant data base") is less than said minimum quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type.

Claim 15. A method in accordance with claim 14, wherein storing model data (pg. 328, left column, bullet number 5 "plant data base") further comprises storing maximum quantity data (pg. 328, left column, bullet number 5 "plant data base") in association with said items of utility type data (pg. 328, left column, bullet number 5 "plant data

base"), wherein said quantity data (pg. 328, left column, bullet number 5 "plant data base") for a step within in a simulation is determined by of incrementing or decrementing quantity data (pg. 328, left column, bullet number 5 "plant data base") for the previous step in a simulation by the product of said generation rate data (pg. 328, left column, bullet number 5 "plant data base") and said determined step size only when said quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type does not exceed said maximum quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type.

Claim 16. A method in accordance with claim 10, wherein said generated output data (pg. 328, left column, bullet number 5 "plant data base") associated with utility type data (pg. 328, left column, bullet number 5 "plant data base") comprises data (pg. 328, left column, bullet number 5 "plant data base") indicative of the simulated availability of utilities or waste processing capacity.

Claim 17. A method in accordance with claim 12, wherein said storing model data (pg. 328, left column, bullet number 5 "plant data base") comprises storing in association with at least some of said plurality of processes, data (pg. 328, left column, bullet number 5 "plant data base") indicative of one or more continuation conditions, and wherein said generating output data (pg. 328, left column, bullet number 5 "plant data base") comprises for each step in a simulation, the steps of: determining which of said plurality of processes are to be simulated in said step of said simulation, determining for processes to be simulated associated with data (pg. 328, left column, bullet number 5

"plant data base") indicative of one or more continuation conditions whether output data (pg. 328, left column, bullet number 5 "plant data base") generated for the previous step in said simulation fulfills the one or more continuation conditions defined by said data (pg. 328, left column, bullet number 5 "plant data base"); and if at least one continuation condition for a process being simulated is not fulfilled simulating a delay in the continued processing of said process.

Claim 18. A method of simulating an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) comprising the steps of: storing model data (pg. 328, left column, bullet number 5 "plant data base") indicative of a plurality of processes involving a number of items of equipment to be used in an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) to be simulated; and generating output data (pg. 328, left column, bullet number 5 "plant data base") indicative of a simulation of an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) utilizing said stored model data (pg. 328, left column, bullet number 5 "plant data base"), wherein said storing model data (pg. 328, left column, bullet number 5 "plant data base") comprises storing data (pg. 328, left column, bullet number 5 "plant data base") indicative of one or more continuation conditions in association with each of said processes, and wherein said generating output data (pg. 328, left column, bullet number 5 "plant data base") comprises, for each step in a simulation, the steps of: determining which of said plurality of processes are to be simulated determining for the processes to be simulated whether output data

(pg. 328, left column, bullet number 5 "plant data base") generated for the previous step in said simulation fulfils the one or more continuation conditions defined by the stored data (pg. 328, left column, bullet number 5 "plant data base") associated with said processes being simulated; and if at least one continuation condition associated with a process being simulated is not fulfilled by said generated output data (pg. 328, left column, bullet number 5 "plant data base") simulating a delay in the continued processing of said process.

Claim 19. A method in accordance with claim 18, wherein said data (pg. 328, left column, bullet number 5 "plant data base") indicative of a continuation condition comprises data (pg. 328, left column, bullet number 5 "plant data base") defining an equation which quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with utility type data (pg. 328, left column, bullet number 5 "plant data base") is to fulfill.

Claim 20. A method in accordance with claim 18, wherein said storing model data (pg. 328, left column, bullet number 5 "plant data base") comprises storing, in association with each of said plurality of processes, data (pg. 328, left column, bullet number 5 "plant data base") indicative of subsequent processes to be simulated following the completion of each said process wherein determining which of said plurality of processes are to be simulated comprises: determining for each process simulated in the previous step of a simulation whether the completion condition associated with each

said process has been fulfilled; and determining as processes to be simulated processes for which said completion conditions have not been fulfilled and said subsequent processes associated with processes for which said completion conditions have been fulfilled.

Claim 21. A method of performing an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) comprising the steps of: simulating an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) in accordance with any preceding claim to determine apparatus required to perform a process; providing apparatus corresponding to said items of equipment simulated; and utilizing said apparatus to perform said industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) simulated.

Claim 22. An apparatus for generating a simulation of an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) comprising: storage means for storing model data (pg. 328, left column, bullet number 5 "plant data base") indicative of a plurality of processes involving a number of items of equipment to be used in an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) to be simulated; determination means for determining scheduling (pg. 324, left column, lines 10-12; item 3)data (pg. 328, left column, bullet number 5 "plant data base") for initiating batches (title) against which said processes are to be simulated; an equipment identifier operable to identify items of equipment liable to be involved in simulated processing of a next batch (title) to be initiated after a latest

initiated batch (title); a minimum cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit operable to determination for items of equipment identified by said equipment identifier a minimum possible simulated time (pg. 324, right column, 4th paragraph to page 326, first paragraph) required by each identified item for processing said latest initiated batch (title); a current cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit operable to determine for each item of equipment identified by said equipment identifier, the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use for processing previously initiated batches (title); a scheduling (pg. 324, left column, lines 10-12; item 3)unit operable to generate scheduling (pg. 324, left column, lines 10-12; item 3)data (pg. 328, left column, bullet number 5 "plant data base") for scheduling (pg. 324, left column, lines 10-12; item 3)the initiation of a next batch (title) to be initiated after the initiation of a latest initiated batch (title), said scheduling (pg. 324, left column, lines 10-12; item 3)unit configured to cause a time (pg. 324, right column, 4th paragraph to page 326, first paragraph) between the initiation of a next batch (title) to be initiated after a latest initiated batch (title) to be equal to the greater of a minimum of the minimums said minimum cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit and the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) in use determined by said current cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit for items of equipment identified as being liable to process said batch (title) to be scheduled; and generation means for generating output data (pg. 328, left column,

bullet number 5 "plant data base") indicative of a simulation of an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) utilizing stored model data (pg. 328, left column, bullet number 5 "plant data base") and scheduling (pg. 324, left column, lines 10-12; item 3)data (pg. 328, left column, bullet number 5 "plant data base") generated by said scheduling (pg. 324, left column, lines 10-12; item 3)unit.

Claim 23. An apparatus in accordance with claim 22, wherein said current cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit comprises: means for storing, in association with each item of equipment to be simulated, data (pg. 328, left column, bullet number 5 "plant data base") indicative of the time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of said item of equipment for a batch (title) previously processed by said item of equipment,

wherein said current cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit determines, as the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use, the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of said stored times of use stored in said means for storing included in said current cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit.

Claim 24. An apparatus in accordance with claim 22, wherein said current

cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit is configured to: determine, for each of the said items of equipment identified by said equipment identifier, whether an item of equipment is in use; determine if an item of equipment is in use, a total time (pg. 324, right column, 4th paragraph to page 326, first paragraph) the item of equipment has been in use for a current batch (title); and stores if an item of equipment is no longer in use, said total time (pg. 324, right column, 4th paragraph to page 326, first paragraph) in use as said time (pg. 324, right column, 4th paragraph to page 326, first paragraph) in use for said equipment.

Claim 25. An apparatus in accordance with claim 24, wherein said means for storing comprises means for storing model data (pg. 328, left column, bullet number 5 "plant data base") associating each of said items of equipment with a number of processes wherein said current cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit determines whether any of said processes associated with an item of equipment is currently being simulated to determine whether an item of equipment is in use.

Claim 26. An apparatus in accordance with claim 22, wherein said means for determining a minimum possible processing time (pg. 324, right column, 4th paragraph to page 326, first paragraph) comprises means for storing, in association with each batch (title) to be initiated, data (pg. 328, left column, bullet number 5 "plant data base") indicative of a greatest of wherein said minimum possible processing times unit utilizes

said data (pg. 328, left column, bullet number 5 "plant data base") indicative of the greatest of said minimum possible processing times to generate scheduling (pg. 324, left column, lines 10-12; item 3)data (pg. 328, left column, bullet number 5 "plant data base").

Claim 27. An apparatus in accordance with claim 22, wherein said minimum cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit comprises: means for associating a with a batch (title) to be initiated, data (pg. 328, left column, bullet number 5 "plant data base") indicative of items of equipment to be utilized in simulated processing of said batch (title), wherein said minimum cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit utilizes said data (pg. 328, left column, bullet number 5 "plant data base") indicative of the items and associated with said batch (title).

Claim 28. An apparatus in accordance with claim 27, wherein said means for storing comprises: means for associating said items of equipment with data (pg. 328, left column, bullet number 5 "plant data base") indicative of a number of processes and data (pg. 328, left column, bullet number 5 "plant data base") identifying one or more completion conditions for each of said processes, at the least some of said processes being associated with data (pg. 328, left column, bullet number 5 "plant data base") identifying one or more completion conditions including the at least one lapse of at least

one specified time (pg. 324, right column, 4th paragraph to page 326, first paragraph) period in the simulation of a process, wherein said minimum cycle time (pg. 324, right column, 4th paragraph to page 326, first paragraph) determination unit determines a sum of said specified time (pg. 324, right column, 4th paragraph to page 326, first paragraph) periods identified as completion conditions for processes associated with said items of equipment.

Claim 29. An apparatus in accordance with claim 28, wherein said means for storing is further comprises means for associating at least some of said plurality of processes with rate data (pg. 328, left column, bullet number 5 "plant data base"); and wherein said generation means further comprises: means for determining whether any process of said plurality of processes to be simulated is associated with rate data (pg. 328, left column, bullet number 5 "plant data base") identifying the respective associated process as utilizing a utility at a rate; means for determining a minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size required to complete any of the processes currently being simulated; and selection means for selecting a default time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size as the time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size for generating output data (pg. 328, left column, bullet number 5 "plant data base"), if at least one process associated with rate data (pg. 328, left column, bullet number 5 "plant data base") is to be simulated and said default time (pg. 324, right column, 4th paragraph to page 326, first paragraph)

increment step size is smaller than said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size and for selecting said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size as said time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size if no process to be simulated is, associated with rate data (pg. 328, left column, bullet number 5 "plant data base") or said default time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size is greater than said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size.

Claim 30. An apparatus for generating a simulation of an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) comprising: storage means for storing model data (pg. 328, left column, bullet number 5 "plant data base") indicative of a plurality of processes involving a number of items of equipment to be used in an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) to be simulated; means for determining a time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size to be used with said model data (pg. 328, left column, bullet number 5 "plant data base"); and generation means for generating output data (pg. 328, left column, bullet number 5 "plant data base") indicative of a step within a simulation of an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) utilizing said stored model data (pg. 328, left column, bullet number 5 "plant data base") and a determined time

(pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size, wherein said means for storing stores rate data (pg. 328, left column, bullet number 5 "plant data base") in relation to at least some of said processes, and wherein said means for determining a time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size comprises: means for determining whether any process of said plurality of processes to be simulated is associated with rate data (pg. 328, left column, bullet number 5 "plant data base") identifying the respective associated process as utilizing a utility at a rate; means for determining tile a minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size required to complete any of the processes currently being simulated; and selection means for selecting a default time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size as the time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size for generating output data (pg. 328, left column, bullet number 5 "plant data base"), if at least one process associated with rate data (pg. 328, left column, bullet number 5 "plant data base") is to be simulated and said default time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size is smaller than said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size, and for selecting said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size as said time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size, if no process to be simulated is associated with rate data (pg. 328, left column, bullet number 5 "plant data

base") or said default time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size is greater than said determined minimum time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size.

Claim 31. An apparatus in accordance with claim 29, wherein said storage means for storing comprises means for associating utility type data (pg. 328, left column, bullet number 5 "plant data base") with said at least some of said plurality of processes, and wherein said generation means outputs data (pg. 328, left column, bullet number 5 "plant data base") associated with items of utility type data (pg. 328, left column, bullet number 5 "plant data base") utilizing rate data (pg. 328, left column, bullet number 5 "plant data base") associated with a process being simulated and said determined step size.

Claim 32. An apparatus in accordance with claim 31, wherein said generation means outputs data (pg. 328, left column, bullet number 5 "plant data base") representative of instantaneous demand for a utility corresponding to an item of utility type data (pg. 328, left column, bullet number 5 "plant data base") utilizing determined sums of rate data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type data (pg. 328, left column, bullet number 5 "plant data base") for processes being simulated.

Claim 33. An apparatus in accordance with claim 31, wherein said means is arranged to store for storing stores in association with items of utility data (pg. 328, left column,

bullet number 5 "plant data base"), quantity data (pg. 328, left column, bullet number 5 "plant data base") indicative of a current quantity of a utility within a simulation, and wherein said generation means outputs quantity data (pg. 328, left column, bullet number 5 "plant data base") that is determined utilizing rate data (pg. 328, left column, bullet number 5 "plant data base") associated with processes being simulated and said determined step size.

Claim 34. An apparatus in accordance with claim 31, wherein said generation means determines quantity data (pg. 328, left column, bullet number 5 "plant data base") for a step in a simulation by incrementing or decrementing quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with utility type data (pg. 328, left column, bullet number 5 "plant data base") for the previous step in a simulation by the product of said determined step size and the sum of rate data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility data (pg. 328, left column, bullet number 5 "plant data base") and processes being simulated.

Claim 35. An apparatus in accordance with claim 34, wherein said for storing stores, in association with said items of utility type data (pg. 328, left column, bullet number 5 "plant data base"), and minimum quantity data (pg. 328, left column, bullet number 5 "plant data base") and generation rate data (pg. 328, left column, bullet number 5 "plant data base"), wherein said generation means outputs quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with an item of utility type data (pg. 328, left column, bullet number 5 "plant data base") for a step within a simulation by

incrementing or decrementing quantity data (pg. 328, left column, bullet number 5 "plant data base") for the previous step in a simulation by the product of said generation rate data (pg. 328, left column, bullet number 5 "plant data base") and said determined step size if said quantity data (pg. 328, left column, bullet number 5 "plant data base") is less than said minimum quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type.

Claim 36. An apparatus in accordance with claim 35,wherein said means for storing stores maximum quantity data (pg. 328, left column, bullet number 5 "plant data base") in association with said items of utility type data (pg. 328, left column, bullet number 5 "plant data base"), and wherein said generation means outputs quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with an item of utility type data (pg. 328, left column, bullet number 5 "plant data base") for a step within a simulation determined by incrementing or decrementing quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type for the previous step in a simulation by the product of said generation rate data (pg. 328, left column, bullet number 5 "plant data base") and said determining time (pg. 324, right column, 4th paragraph to page 326, first paragraph) increment step size only when said quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type does not exceed said maximum quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with said utility type.

Claim 37. An apparatus in accordance with claim 31, wherein said means for storing stores in association with at least some of said plurality of processes, data (pg. 328, left column, bullet number 5 "plant data base") indicative of one or more continuation conditions, and wherein said generation means comprises: means for determining which of said plurality of processes are to be simulated in simulation step; and means for determining, for processes to be simulated associated with data (pg. 328, left column, bullet number 5 "plant data base") indicative of one or more continuation conditions, whether output data (pg. 328, left column, bullet number 5 "plant data base") generated for the .q previous step in said simulation fulfils the one or more continuation conditions; and if at least one continuation condition associated with a process being simulated is not fulfilled by said generated output data (pg. 328, left column, bullet number 5 "plant data base") for simulating a delay in the continued processing of said process.

Claim 38. An apparatus for simulating an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) comprising: storage means for storing model data (pg. 328, left column, bullet number 5 "plant data base") indicative of a plurality of processes involving a number of items of equipment to be used in an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2) to be simulated; and generation means for generating output data (pg. 328, left column, bullet number 5 "plant data base") indicative of a simulation of an industrial process (pg. 323, left column, 2nd paragraph, line 4 and right column, lines 1-2)

utilizing said stored model data (pg. 328, left column, bullet number 5 "plant data base"), wherein said storage means stores data (pg. 328, left column, bullet number 5 "plant data base") indicative of one or more continuation conditions in association with each of said processes, and wherein said generation means comprises: means for determining which of said plurality of processes are to be simulated in a simulation step; and means for determining, for the processes to be simulated, whether output data (pg. 328, left column, bullet number 5 "plant data base") generated for the previous step in said simulation fulfils the one or more continuation conditions associated with said processes being simulated; and, if at least one continuation condition associated with a process being simulated is not fulfilled, for simulating a delay in the continued processing of said process.

Claim 39. An apparatus in accordance with claim 37, wherein said storage for storing stores data (pg. 328, left column, bullet number 5 "plant data base") indicative of a continuation condition that comprises data (pg. 328, left column, bullet number 5 "plant data base") defining an equation which quantity data (pg. 328, left column, bullet number 5 "plant data base") associated with utility type data (pg. 328, left column, bullet number 5 "plant data base") is to fulfill.

Claim 40. An apparatus in accordance with claim 37, wherein said means for storing stores. in association with each of said plurality of processes, data (pg. 328, left column, bullet number 5 "plant data base") indicative of the a next processes to be simulated

following the completion of each said process, wherein said means for determining of which of said plurality of processes (abstract: 2nd paragraph, line 4 "batch sequencing simulation") are to be simulated comprises: means for determining, for each process simulated in a previous step of a simulation, whether the one or more continuation conditions associated with each process being simulated (abstract: 2nd paragraph, line 4 "batch sequencing simulation") have been fulfilled; and means for determining as processes to be simulated: processes being simulated for which not all of the continuation conditions have been fulfilled and the processes identified by data (pg. 328, left column, bullet number 5 "plant data base") in said storage means as next processes to be simulated which are associated by said data (pg. 328, left column, bullet number 5 "plant data base") with processes for which said completion conditions have been fulfilled.

Claim 41. A method in accordance with claim 1, wherein of determining a scheduling (pg. 324, left column, lines 10-12; item 3) data (pg. 328, left column, bullet number 5 "plant data base") further comprises: when a batch (title) is being initiated, determining time (pg. 324, right column, 4th paragraph to page 326, first paragraph) remaining in a current shift and re-scheduling (pg. 324, left column, lines 10-12; item 3) said batch (title) if said time (pg. 324, right column, 4th paragraph to page 326, first paragraph) remaining is less than an estimated time (pg. 324, right column, 4th paragraph to page 326, first paragraph) required for processing said batch (title).

Claim 42. A method in accordance with claim 41, wherein aid re-scheduling (pg. 324, left column, lines 10-12; item 3) of said batch (title) comprises re-scheduling (pg. 324, left column, lines 10-12; item 3) said batch (title) for the next shift if said time (pg. 324, right column, 4th paragraph to page 326, first paragraph) remaining is less than a minimum processing time (pg. 324, right column, 4th paragraph to page 326, first paragraph) for said batch (title).

Claim 43. A method in accordance with claim 41, wherein said estimated time (pg. 324, right column, 4th paragraph to page 326, first paragraph) required is determined by calculating the sum of the greater of the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of items of equipment utilized in processing said batches (title) and minimum possible processing time (pg. 324, right column, 4th paragraph to page 326, first paragraph) for processing said batch (title) in accordance with said model data (pg. 328, left column, bullet number 5 "plant data base") for said items of equipment.

Claim 44. An apparatus in accordance with claim 22, wherein said determination means for determining scheduling (pg. 324, left column, lines 10-12; item 3) data (pg. 328, left column, bullet number 5 "plant data base") includes means for determining time (pg. 324, right column, 4th paragraph to page 326, first paragraph) remaining in a current shift when a batch (title) is being determined and means for re-scheduling (pg. 324, left column, lines 10-12; item 3) said batch (title) if said time (pg. 324, right column, 4th

paragraph to page 326, first paragraph) remaining is less than an estimated time (pg. 324, right column, 4th paragraph to page 326, first paragraph) required for processing said batch (title).

Claim 45. An apparatus in accordance with claim 44, wherein said means for re-scheduling (pg. 324, left column, lines 10-12; item 3) of said batch (title) re-schedules said batch (title) for the next shift if said time (pg. 324, right column, 4th paragraph to page 326, first paragraph) remaining is less than a minimum processing time (pg. 324, right column, 4th paragraph to page 326, first paragraph) for said batch (title).

Claim 46. An apparatus in accordance with claim 44, wherein said estimated time (pg. 324, right column, 4th paragraph to page 326, first paragraph) is determined by calculating the sum of the greater of the greatest time (pg. 324, right column, 4th paragraph to page 326, first paragraph) of use of items of equipment utilized in processing said batches (title) and minimum possible processing times for processing said batch (title) in accordance with said model data (pg. 328, left column, bullet number 5 "plant data base") for said items of equipment.

Claim 47. A computer-readable recording medium, storing computer executable processor (pg. 326, 4th paragraph) steps for performing a method in accordance with any of claims 1, 9 or 18.

Claim 48. A computer-readable recording medium storing computer executable processor (pg. 326, 4th paragraph) steps for causing a programmable computer to implement an apparatus in accordance with any of claims 22, 30,38.

Claim 49. A computer-readable recording medium in accordance with claim 47 comprising a computer disc (e.g., 386 PC accepts computer discs, pg. 326, right column, 4th paragraph).

Claim 51. A computer-readable recording (pg. 326, 4th paragraph) medium in accordance with claim 49, wherein said computer disc comprises at least one of an optical disk, magneto-optical disk and a magnetic disc (e.g., 386 PC accepts computer discs, pg. 326, right column, 4th paragraph).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts in view of Weaver et al., titled, (Monitoring and Control Using the Internet and Java; hereafter Weaver).

Per claim 50 Robert teaches

- recording medium (pg. 326, 4th paragraph)

but fails to teach Internet access

Weaver teaches using the Internet to monitor virtual production process

- Internet access (abstract: lines 14-20)

Weaver teaches a platform to manage vast amounts of information and data simultaneously (Weaver: pg. 1152, left column, 2nd paragraph, lines 10-12).

Section II: Response to Arguments

101

9. Applicants are thanked for response to this issue; however it does not abrogate the rejection. In this instance the mathematical calculations in the State Street case denote a final share price which is useful towards a specific application or utility, while

the application, claim 1 for example, "generating output data indicative of a simulation of an industrial process utilizing said stored model data and said generated scheduling data" is silent as to what the generating output data is to be used for. To add, applicant argues in their remarks (pg. 3, 3rd paragraph) that, "Simulation *outputs are commonly used across a number of different technological disciplines to gain insight into the simulated process, as well as to evaluate possible solutions"* which further accentuates the Office's rebuttal in that the limitation of *outputs range across different technological arts* is boundless in view of a specific credible utility. In the case of State Street, the credible utility is a share price, while the application states the process as *indicative of industrial process* , which is nothing more than a factual description of the type of simulation being conducted. Rejection, as stated above, stands.

103

Prima Facie

Applicant is thanked for addressing this issue. The 103 rejection is withdrawn in place of the 102(b); however, claim 50 is rejected under 103 in view of Weaver.

Independent claims 1, 9, 22 and 30

10. Applicant argues that Roberts is silent to "utilizing [] stored model data to determine for each item of [] identified items of equipment a minimum possible simulated processing time (pg. 324, right column, forth full paragraph to page 326, first paragraph, if change over time is being reduced the minimum processing time must be calculated. This also includes the simulated process time on page 324, 4th full paragraph) required for simulated processing of said latest initiated batch." Utilizing

stored data" is a broad term but nonetheless, this limitation is nothing more than manipulating data to which Roberts discloses regarding software representation of a virtual manufacturing plant (pg. 328, section 6 "Implementation/Development Issues", lines 1-5), while pg. 327, left column, last paragraph, states "***a time based graphical simulation is conducted using the virtual plant, the process plans and the batch process manager output***" which addresses the time required for simulated processing etc.

Applicant argues that the prior art is silent to any minimum possible simulated processing time (pg. 324, right column, forth full paragraph to page 326, first paragraph, if change over time is being reduced the minimum processing time must be calculated. This also includes the simulated process time on page 324, 4th full paragraph) for equipment as well as determining for identified items of equipment which are currently in use processing batches currently being processed, the greatest time of use previously simulated in processing batches using said items of equipment. In response, Roberts blankets these detailed limitations: "***In a large plant the process of check all of the prospective combinations and manipulating the scheduling information*** *manually* (pg. 329, left column, 2nd paragraph)... *This is another place where the* ***virtual plant simulation tools would be utilized*** (pg. 329, left column, 3rd paragraph)... *Based on* ***the desired time frame and current schedules of equipment,*** *the* ***software can claim available equipment for production or indicated the production is not possible with the [t]rime frame under consideration***. Roberts clearly blankets theses limitations regarding to time in claims 1 and 9.

Independent claims 18 and 38

11. Applicant argues that the prior art fails to teach the limitation of *if at least one continuation associated with a process being simulation is not fulfilled by said generated output data simulating a delay in the continued processing of said process.* Roberts inherently teaches this limitation. If persons of ordinary skill the art were to dissect the prior art and the application, their conclusion would be that the two documents are disclosing the same intent. Delays are interruptions/disruptions of a process or simulation relating to a timing problem stemmed from a conflict of some kind, otherwise no delay would exits. In which case Roberts addresses these conflicts by schedule rearrangement (pg. 324, right column, 4th paragraph). The rejection, as stated above, stands.

Conclusion

12. The prior art of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent 7123978 teaches a method for controlling at least one characteristic of a product of an industrial batch process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (7:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Anthony Knight 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

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